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### PACKAGE: Migratory Birds Practices and Operational Guidance Documents (2019)

PKG-MBBPOG-E

This package consists of three documents:

- 1) **PTM-BPCMB-E**: *Beneficial Practices for Compliance with the Migratory Birds Convention Act and Regulations* (2019)
- 2) **PTM-MBVM-E**: *Operational Guidance for Migratory Birds and Vegetation Management for Existing Transportation Facilities and Infrastructure* (2019)
- 3) **PTM-MBNBC-E**: *Operational Guidance for Migratory Bird Nests under Bridges and in Culverts* (2019)

Detailed information and individual copy pricing on these documents is available under their separate listings.

**Background:** Environment and Climate Change Canada (ECCC), through the Canadian Wildlife Service (CWS), administers the Migratory Birds Convention Act, 1994 and associated Migratory Bird Regulations to protect and conserve the vast majority of birds encountered in Canada. Migratory birds are frequently identified and encountered along transportation rights-of-way within natural habitats, as well as on culverts, bridges and other human-made structures. The presence of migratory birds can significantly delay a project or routine maintenance operation if it has not been accounted for during the project's planning and design phase.

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Media type: eBook, Print  
2019

Member Price: \$ 175.00, Regular Price:



## Beneficial Practices for Compliance with the Migratory Birds Convention Act and Regulations (2019)

PTM-BPCMB-E

*Beneficial Practices for Compliance with the Migratory Birds Convention Act and Regulations* provides a synthesis of mitigation measures, case studies and beneficial practices from a variety of settings, industries and activities (i.e. roadways, utilities, oil and gas, land development and forestry), for compliance with the Act and the Regulations during facility creation, operation, maintenance and renewal. It:

Provides an overview of key legislation including the *Migratory Birds Convention Act*, the *Migratory Bird Regulation*, and the *Species at Risk Act* (SARA);

Presents a primer on bird biology;

Directs proponents to essential information sources and tools provided by the Canadian Wildlife Service;

Consolidates case studies of reasonable mitigation measures to prevent adverse impacts during common activities across industries;

Synthesizes general mitigation measures that emerge from the case studies and legislation; and

Recommends a strategy for the development of a national-level Canadian transportation and roadway sector-specific framework to assist proponents in conserving migratory birds, their nests and populations.

This is part of a series of documents which are intended to be used alone or in conjunction with each other.

**PKG-MBBPOG-E (PACKAGE):** PTM-BPCMB-E, PTM-MBVM-E and PTM-MBNBC-E: \$175 member / \$225 non-member. Available in print or ebook.

**PTM-BPCMB-E:** *Beneficial Practices for Compliance with the Migratory Birds Convention Act and Regulations* \$129 member / \$169 non-member. Available in print or ebook.

**PTM-MBVM-E:** *Operational Guidance for Migratory Birds and Vegetation Management for Existing Transportation Facilities and Infrastructure*: \$45 member / \$65 non-member. Available in print or ebook.

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Media type: eBook, Print

2019

Member Price: \$ 129.00, Regular Price:  
\$ 169.00



## Operational Guidance for Migratory Birds and Vegetation Management for Existing Transportation Facilities and Infrastructure (2019)

PTM-MBVM-E

*Operational Guidance for Migratory Birds and Vegetation Management for Existing Transportation Facilities and Infrastructure* provides measures to conserve migratory birds and their nests during common vegetation management activities necessary for maintaining sight lines, removing hazards, or similar activities, such as pruning or removing woody vegetation, and mowing during the General Nesting Period of migratory birds.

It provides guidance to minimize the risk of non-compliance with the Migratory Birds Convention Act and associated Migratory Bird Regulations. The guidance provided is intended to be non-prescriptive and allows for the flexible application

of principles for a variety of contexts.

This is part of a series of documents which are intended to be used alone or in conjunction with each other. It is recommended that practitioners have an understanding of the principles outlined in *Beneficial Practices for Compliance with the Migratory Birds Convention Act and Regulations* (2018) before applying any guidance proposed.

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Media type: eBook, Print  
2019

Member Price: \$ 45.00, Regular Price:  
\$ 65.00



### **Operational Guidance for Migratory Bird Nests under Bridges and in Culverts (2019)**

PTM-MBNBC-E

*Operational Guidance for Migratory Bird Nests under Bridges and in Culverts* provides measures to conserve migratory birds and their nests during common vegetation management activities necessary for maintaining sight lines, removing hazards, or similar activities, such as pruning or removing woody vegetation, and mowing during the General Nesting Period of migratory birds.

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Media type: eBook, Print  
2019

Member Price: \$ 45.00, Regular Price:  
\$ 65.00



### Design, Construction, Maintenance and Inspection Guide for Mechanically Stabilized Earth Walls (2017)

PTM-MSEW-E

Mechanically stabilized earth (MSE) walls are a mature earth retention technology but concerns sometimes arise over who retains ultimate responsibility for wall design, quality assurance, asset management and repairs, and post-construction in-service monitoring, particularly if significant construction or performance problems occur.

*Design, Construction, Maintenance and Inspection Guide for Mechanically Stabilized Earth Walls* provides owners, engineers, suppliers and contractors of MSE walls with practical guidance on the selection, design, construction, and inspection of these structures with a focus on public works projects. The guide was developed through reviews of published literature supplemented by a survey of industry stakeholders. It is not intended to reproduce the large volume of published design guidance and related information; rather the guide highlights aspects of the current state of practice in Canada and suggests modifications of current practice where deficiencies are apparent.

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Media type: eBook, Print  
2017

Member Price: \$ 149.00, Regular Price:  
\$ 199.00



### Geometric Design Guide for Canadian Roads: Chapter 1 - Design Philosophy

PTM-GEODES1-E

The *Geometric Design Guide for Canadian Roads* is a fundamental reference document for roadway design practitioners in Canada. It contributes to the consistent and safe development and expansion of regional, provincial, and national roadway and highway systems in Canada.

The 2017 Guide contains the current design and human factors research and practices for roadway geometric design. **Updates to technical content in chapters 2, 5, 7, 9 and 10 will be included as of August 19, 2019.** [Summary of Revisions](#)

The Guide provides guidance in developing design solutions that meet the needs of a range of users while addressing the context of local conditions and environments. Design guidelines for freeways, arterials, collectors, and local roads, in both urban and rural locations, are included as well as guidance for integrated bicycle and pedestrian design.

*Chapter 1 – Design Philosophy* provides an introduction to the design objectives, its evolving approach and the design domain concept utilized throughout the Guide. Guidance on benefit cost analysis, value engineering and design exceptions is also provided.

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The 10 chapters in the Geometric Design Guide for Canadian Roads are: 1 – Design Philosophy; 2 – Design Controls, Classification and Consistency; 3 – Alignment and Lane Configuration; 4 – Cross Section Elements; 5 – Bicycle Integrated Design; 6 – Pedestrian Integrated Design; 7 – Roadside Design; 8 – Access; 9 – Intersections; and 10 – Interchanges.

The Guide can be purchased in its entirety (package of chapters 1-10) or by separate chapters, and is available in either hard copy or e-book formats.

**Full-time students** providing proof of eligibility can buy the package for \$225 or each separate chapter for \$39 (e-book versions only). Email [publications@tac-atc.ca](mailto:publications@tac-atc.ca) your academic program name, course title, name of professor or dean, and copy of your student ID, for instructions. Call 613-736-1350 with questions.

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Media type: eBook, Print  
2017

Member Price: \$ 59.00, Regular Price:  
\$ 75.00



### Geometric Design Guide for Canadian Roads: Chapter 4 - Cross Section Elements

PTM-GEODES4-E

The *Geometric Design Guide for Canadian Roads* is a fundamental reference document for roadway design practitioners in Canada. It contributes to the consistent and safe development and expansion of regional, provincial, and national roadway and highway systems in Canada.

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**Chapter 4 – Cross Section Elements** provides guidance on the design procedures and domains dealing with cross section design and related elements including the use of special purpose lanes, drainage features, grading, snow removal, bridge considerations, and shared use of the right-of-way by public and private utilities.

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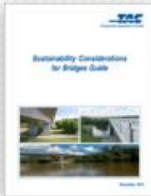
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Media type: eBook, Print  
2017

Member Price: \$ 65.00, Regular Price:  
\$ 82.00



## Sustainability Considerations for Bridges Guide

PTM-SCBG-E

The Sustainability Considerations for Bridges Guide helps transportation agencies and bridge professionals improve the sustainable (i.e., social, economic and environmental) benefits of their projects and communicate those improvements to stakeholders in a consistent and objective manner. It provides broad direction on sustainability considerations specific to bridge planning, design, construction and management.

The Guide begins by providing sustainability concepts (what is sustainability; setting priorities and making decisions) and describing 12 sustainability objectives (e.g. reducing energy use and emissions; improving safety, access and mobility). It then offers 22 practices sheets that describe a sustainability topic to be considered in a project. The following are a few of the practice topics included in the Guide:

- Bridge Aesthetics
- Improve Material Reuse and Recycling
- Bridge Lifecycle Cost Analysis
- Maintain or Improve Aquatic Ecosystems
- Reduce Construction Traffic Delay

Background: The road and highway bridge engineering community has long been considering many aspects of sustainability, such as safety, durability, and aesthetics. However, these efforts rarely are coordinated with the goal of improving sustainability, and are sometimes done without a clear understanding of the positive and negative effects to sustainability. Considering the growing awareness of sustainability, most authorities recognize that sustainability will need to become an important consideration when making decisions, setting policies, and meeting performance measures sought by stakeholders.

[Errata](#)

Media type: eBook, Print  
2015

Member Price: \$ 225.00, Regular Price:  
\$ 299.00



## PRIMER: Sustainability Considerations for Bridges

PRM-SCBG-E

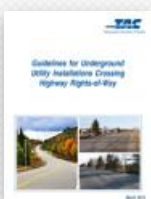
For more information on this subject, refer to *Sustainability Considerations for Bridges Guide*(2015), PTM-SCBG-E, available for purchase in the TAC Bookstore.

Disponible en français : *NOTIONS ÉLÉMENTAIRES : Développement durable des ponts*

<http://tac-atc.ca/sites/tac-atc.ca/files/site/doc/Bookstore/primer-scbg-e.pdf>

Media type: PDF  
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2015

Free



## Guidelines for Underground Utility Installations Crossing Highway Rights-of-Way

PTM-UUICH-E

Guidelines for Underground Utility Installations Crossing Highway Rights-of-Way is intended to assist various road authorities in establishing and administering reasonably uniform criteria for the accommodation of utilities crossing highway (and freeway) rights-of-way. Ideally, existing utility accommodation guidelines should be updated in light of these guidelines, as appropriate.

These guidelines have been written for both the road industry and the utility industry. They are specifically aimed at: public and private sector managers; consulting engineers practicing in the highway/utility field; and individuals entering



the highway/utility field, although they can be used by anyone interested in an overview of the complex series of highway/utility interactions.

#### Background

Utility companies provide essential services to the public. They often install their facilities within the rights-of-way of public roads. If the utilities were not allowed to use the rights-of-way, they could be required to purchase their own land, which would drive up the overall cost to the utility company. This could significantly increase the cost to the public. The responsibility of road authorities includes operating the highway rights-of-way in a manner that ensures the safety, traffic-carrying ability and physical integrity of their installations. The presence of a utility within the right-of-way can affect these characteristics, so it is necessary for road authorities to reasonably regulate the presence of utilities.

Keywords: Planning of Transport Infrastructure, Administration, Cable, Carriageway, Corridor (Transp), Crossing the Road, Electricity, Fuel, Maintenance, Pipe, Risk Assessment, Safety, Subterranean

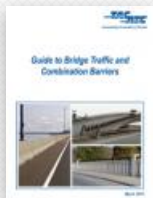
<http://tac-atc.ca/sites/tac-atc.ca/files/site/doc/resources/ptm-uuich-e-finalpub.pdf>

Media type: PDF

[Download](#)

2013

Free



#### Guide to Bridge Traffic and Combination Barriers

##### PTM-BARRIER

This guide discusses issues relating to current practices in Canada, and summarizes the available resources, research and design guidance accepted by major North American agencies and jurisdictions. The guide was developed to synthesize and help unify the Canadian bridge barrier design practices.

Divided into eight chapters, the publication specifically focuses on barrier performance levels, conceptual design guidance for new traffic barriers, combination barriers and multi-modal protection, bridge barrier end treatments, as well as evaluation and upgrade of existing systems.

This publication is intended to serve as a comprehensive summary rather than a design specification guide. No crash testing was conducted during the project and all findings noted in the guide are based solely on literature review and interviews with expert researchers and representatives of major Canadian jurisdictions.

The content of the publication is consistent with the requirements of the Canadian Highway Bridge Design Code, which is the principal design code specification for bridge barriers in Canada.

Disponible en français : *Guide des glissières de sécurité et des glissières combinées pour les ponts (2010)*

Media type: eBook, Print

2010

Member Price: \$ 199.00, Regular Price:  
\$ 279.00



#### Structural Concrete Deck Protection Systems

##### PTM-DECKPRO

This report contains information on the selection, design, construction, maintenance and rehabilitation of structural deck protection systems (SCDPS) for Canadian conditions. It focuses on structural waterproofing systems commonly used on infrastructure reinforced concrete components to provide an impermeable barrier to protect from corrosion damage.

An illustrated overview of concrete bridge deck waterproofing systems, performance problems, corrosion, and concrete deterioration is highlighted within the report. A list of recommended current SCDPS technical resources and a summary of North American standards for deck protection systems is also provided.

The technical and financial comparison and evaluation of generally available current SCDPS for a new bridge deck project involves three main components: feasibility assessment; a comparative rating of the features and performance; and a life-cycle cost analysis. The report includes an example illustrating this evaluation methodology.

A significant portion of the cost of concrete bridge components is related to the deterioration of reinforced concrete decks

subjected to heavy loadings, harsh weather conditions, and regular winter use of anti-icing and de-icing salts across Canada. Enhanced technical and cost-effective structural concrete deck protection systems can play a key role in reducing maintenance, repair, and rehabilitation costs.

Media type: PDF

[Download](#)

2010

Free



### Guide for Bridge Repair and Rehabilitation

PTM-BRIDGEREP

The Guide for Bridge Repair and Rehabilitation was developed for bridge owners who may be confronted with requirements for managing a bridge population, or an individual bridge, but who may not have all the detailed knowledge of the state-of-the-art in bridge rehabilitation and repair. It is intended that such users be able to refer to this document to obtain a general overview of bridge rehabilitation and repair, and to enable them to understand when expertise, in the form of external agencies or bridge engineering consultants, should be brought to bear on the issues.

Chapter 1 provides an introduction to the issues of bridge repair and rehabilitation;

Chapter 2 reviews the types of bridge structures that are associated with short, medium, and long span structures, as well as other types of structures such as hybrid, movable, and temporary moveable bridges;

Chapter 3 provides information on construction material, including asphalt, concrete, steel, masonry, timber, and many more that are used in the construction of bridges;

Chapter 4 explores the elements of bridges and the types of deterioration that occur on each;

Chapter 5 reviews materials used in bridge repair and rehabilitation;

Chapter 6 describes rehabilitation methodologies;

Chapter 7 explores special considerations for bridge repair and rehabilitation, including maintenance, life cycle costing and the aesthetics of rehabilitation. It also reviews social, economic, and environmental considerations;

Chapter 8 provides a glossary of terms used in the industry; and

Chapter 9 provides a list of references used throughout the Guide.

Media type: eBook, Print

2007

Member Price: \$ 199.00, Regular Price:  
\$ 349.00



### Guide to Bridge Management

PTM-BRIDGEMGMT

Many Canadian bridges have reached the end of their serviceable lives (50 to 80 years) and many more are approaching the same condition. In addition, the cost of bridge maintenance has been rising over the years and deficient bridges are becoming more prevalent. TAC's Guide to Bridge Management provides tools and strategies for professionals to identify conditions and deficiencies, to assess needs and to evaluate costs, such that appropriate investments are made in the areas of greatest need. The Guide may also be a valuable reference tool for owners and consultants, providing assistance in the judgment of engineering services for bridge management, on the basis of a common terminology and attributes.

The Guide provides a description of existing bridge management functions and the most effective practices and activities that could be implemented. Chapter topics cover:

bridge management overview (for senior managers)

bridge anatomy and components

bridge deficiencies

management, operations and maintenance (for managers)

bridge inspection

evaluation

references.



The Guide will be of use to both municipalities and provinces/territories, to assist in the development of reasonable management practices for bridge infrastructure. It is designed so that it can be applied to unique bridge structures or elements, or an overall network of bridges.

For those with a bridge management best practice in place, this Guide will provide a wealth of additional information. For those without such a system and looking to establish one, this Guide will prove very helpful in needs determination.

Media type: eBook, Print  
2004

Member Price: \$ 49.00, Regular Price:  
\$ 69.00



### Guide to Bridge Hydraulics (Second Edition)

PTM-BRIDGE-HYD

Floods and erosion continue to be important causes of bridge damage and failures worldwide, and to be a key consideration in bridge design, construction and maintenance. In some jurisdictions, concern over the security of bridges against the action of water has led to extensive re-evaluation of existing foundations. This Guide aims to assist bridge designers by outlining the factors to be considered in the location, layout and hydraulic design or re-evaluation of bridges and by suggesting criteria and procedures to do so.

The Guide is directed at civil engineers and other professionals responsible for bridge design, construction and maintenance but who may not be specialists in hydraulics and hydrology.

Media type: eBook, Print  
2001

Member Price: \$ 199.00, Regular Price:  
\$ 349.00



### Study of Natural Gas Pipeline Placement in Rural Road Right-of-Ways

PTR-NATGAS

The placement and location of hydrocarbon pipelines with respect to road geometries and cross sections can have an effect on

- 1) the safety of the highway system, its users and adjacent residents and
- 2) the operational and economic impacts of highway maintenance.

TAC's study is intended to provide readers with a qualitative and quantitative understanding of the implications of locating pressurized natural gas pipelines in various locations within rural road right-of-ways. The study's conclusions and recommendations include definition of compatible and incompatible combinations of pipeline and location installations in terms of safety, cost and constructibility; various risk and impact mitigation measures to enhance safety and reduce costs; and long-term approaches to optimize the situation.

Keywords: Network (transp); Highway; Pipe; Gas; Safety; Operational Research; Economics; Location

Media type: PDF  
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2001

Free



### Drainage manual - Volume 1 (1982) & Volume 2 (1987)

PTM-DRAIN-EBK

Volume 1 - Hydrology and open channels  
Volume 2 - Culverts and storm sewers

Reflects Canadian drainage practice, as of date of publication, with particular reference to transportation facilities. The solution of typical problems is well illustrated through numerous worked examples.

[Visit the Bookstore to buy](#)



Media type: eBook  
1982

Member Price: \$ 35.00, Regular Price:  
\$ 46.00

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